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Atty Dkt No. GP-305571 (GM0575PUS)

Listing of Claims

1. (currently amended) An electrically variable transmission comprising:

an input member to receive power from an engine;

an output member connected to a transfer gear;

first and second motor/generators;

first and second simple planetary gear sets each having first, second and third members;

said input member being continuously connected to said first member of said first gear set, and said output member being continuously connected to said first member of said second gear set;

said first motor/generator being continuously connected to said second member of said first gear set;

said second motor/generator being continuously connected with said third member of said first or second gear set;

a first torque transfer device selectively grounding said second member of said second gear set;

a second torque transfer device selectively connecting said second member of said second gear set to said first electric motor/generator;

a third torque transfer device selectively grounding said second or third member of said first gear set, or selectively grounding said third member of said second gear set, said third torque transfer device not being positioned between said first and second gear sets;

wherein said third member of said first gear set is selectively or continuously connected with said third member of said second gear set; and

wherein said transfer gear and said first and second torque transfer devices are positioned between said first and second gear sets.

2. (cancelled)

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3. (original) The electrically variable transmission of claim 1, wherein said first, second and third members of said first gear set comprise a carrier, a sun gear, and a ring gear, respectively, and said first, second and third members of said second gear set comprise a carrier, ring gear and sun gear respectively.

4. (currently amended) The electrically variable transmission of claim 2, further comprising a fourth torque transfer device selectively connecting said third member of said first planetary gear set with said third member of said second planetary gear set.

5. (currently amended) The electrically variable transmission of claim 3, wherein said third member of said first planetary gear set is selectively connected with said third member of said second planetary gear set through a third ~~fourth~~ torque transfer device, and further comprising a fourth ~~fifth~~ torque transfer device selectively connecting said first and third members of said first planetary gear set with each other.

6. (currently amended) The electrically variable transmission of claim 1, wherein said third member of said first planetary gear set is selectively connected with said third member of said second planetary gear set through a third torque transfer device configured as a dog clutch, and further comprising a fourth torque transfer device selectively connecting said first and third members of said first planetary gear set with ~~each other~~ each other, and a fifth torque transfer device operative as a one-way clutch selectively grounding said third member of said first planetary gear set.

7. (original) The electrically variable transmission of claim 1, further comprising a rigid rotor support member and rotor support bearing for said first motor/generator positioned between said first and second planetary gear sets.

8. (original) An electrically variable transmission comprising
an input member to receive power from an engine;

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an output member connected to a transfer gear;
first and second motor/generators;
first and second simple planetary gear sets each having first, second and third members;

said input member being continuously connected to said first member of said first gear set, and said output member being continuously connected to said first member of said second gear set;

said first motor/generator being continuously connected to said second member of said first gear set;

said second motor/generator being continuously connected with said third member of said second gear set;

a first torque transfer device selectively grounding said second member of said second gear set;

a second torque transfer device selectively connecting said second member of said second gear set to said first electric motor/generator; and

a third torque transfer device selectively connecting said third member of said first gear set with said third member of said second gear set, wherein said third member of said second gear set is selectively grounded by a fourth torque transfer device;

wherein said transfer gear and said first and second torque transfer devices are positioned between said first and second gear sets.

9. (original) The electrically variable transmission of claim 8, wherein said first, second and third members of said first gear set comprise a carrier, sun gear, and ring gear, respectively, and said first, second and third members of said second gear set comprise a carrier, ring gear and sun gear respectively.

10. (original) The electrically variable transmission of claim 9, wherein said third and fourth torque transfer devices are not positioned between said first and second gear sets.

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11. (original) The electrically variable transmission of claim 9, further comprising a rigid rotor support member and rotor support bearing for said first motor/generator positioned between said first and second planetary gear sets.

12. (currently amended) An electrically variable transmission comprising:

- an input member to receive power from an engine;
- an output member connected to a transfer gear;
- first and second motor/generators;
- first and second simple differential gear sets each having a sun gear member and a ring gear member, each of which meshingly engage a plurality of gear members rotatably mounted on a carrier;
- said input member being operatively connected to said carrier of said first differential gear set;
- said output member being operatively connected to said carrier in said second differential gear set;
- one of said first and said second motor/generators operatively connected to said sun gear member in said first differential gear set;
- the other of said first and said second motor/generators being in continuous, operative connection with said sun gear member of said second differential gear set and with said ring gear member of said first differential gear set;
- a first torque transfer device selectively grounding said ring gear member of said second differential gear set;
- a second torque transfer device selectively connecting said ring gear member of said second differential gear set to said sun gear member of said first differential gear set; and
- a third torque transfer device selectively grounding said sun gear member of said second gear set, said third torque transfer device not being positioned between said first and second gear sets;

wherein said transfer gear and said first and second torque transfer devices are positioned between said first and second differential gear sets.

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13. (original)

14. ~~(original)~~ The electrically variable transmission of claim 13, further comprising a rigid rotor support member and rotor support bearing for said first motor/generator positioned between said first and second gear sets.

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